

SEQUENCE LISTING

<110> Bertin, John

<120> NOVEL MOLECULES OF THE CARD-RELATED PROTEIN FAMILY AND USES THEREOF

<130> 07334-330001

<140> US 09/841,879

<141> 2001-04-24

<150> US 09/728,721

<151> 2000-12-01

<150> US 09/340,620

<151> 1999-06-28

<160> 19

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 777

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (89)...(667)

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Met Gly Arg Ala Arg Asp Ala Ile

1

5

ctg gac gct ctt gaa aac ttg tca ggg gat gaa ctc aaa aag ttc aag 160
 Leu Asp Ala Leu Glu Asn Leu Ser Gly Asp Glu Leu Lys Lys Phe Lys
 10 15 20

atg aag ctg ctg aca gtg caa ctg cga gaa ggc tat ggg cgc atc cca 208
 Met Lys Leu Leu Thr Val Gln Leu Arg Glu Gly Tyr Gly Arg Ile Pro
 25 30 35 40

cgc ggg gcc ctg ctg cag atg gac gcc ata gat ctc act gac aaa ctt 256
 Arg Gly Ala Leu Leu Gln Met Asp Ala Ile Asp Leu Thr Asp Lys Leu
 45 50 55

gtc agc tac tat ctg gag tcg tat ggc ttg gag ctc aca atg act gtg 304
 Val Ser Tyr Tyr Leu Glu Ser Tyr Gly Leu Glu Leu Thr Met Thr Val
 60 65 70

ctt aga gac atg ggc tta cag gag ctg gct gag cag ctg caa acg act 352
 Leu Arg Asp Met Gly Leu Gln Glu Leu Ala Glu Gln Leu Gln Thr Thr
 75 80 85

aaa gaa gag tct gga gct gtg gca gct gca gcc agt gtc cct gct cag 400
 Lys Glu Glu Ser Gly Ala Val Ala Ala Ala Ala Ser Val Pro Ala Gln
 90 95 100

agt aca gcc aga aca gga cac ttt gtg gac cag cac agg caa gca ctc 448
 Ser Thr Ala Arg Thr Gly His Phe Val Asp Gln His Arg Gln Ala Leu
 105 110 115 120

att gcc agg gtc aca gaa gtg gac gga gtg ctg gat gct ttg cat ggc 496
 Ile Ala Arg Val Thr Glu Val Asp Gly Val Leu Asp Ala Leu His Gly
 125 130 135

agt gtg ctg act gaa gga cag tac cag gca gtt cgt gca gag acc acc 544
 Ser Val Leu Thr Glu Gly Gln Tyr Gln Ala Val Arg Ala Glu Thr Thr
 140 145 150

agc caa gac aag atg agg aag ctc ttc agc ttt gtt cca tcc tgg aac 592
 Ser Gln Asp Lys Met Arg Lys Leu Phe Ser Phe Val Pro Ser Trp Asn
 155 160 165

ctg acc tgc aag gac tcc ctc ctc cag gcc ttg aag gaa ata cat ccc 640
 Leu Thr Cys Lys Asp Ser Leu Leu Gln Ala Leu Lys Glu Ile His Pro
 170 175 180

tac ttg gtg atg gac ctg gag cag agc tgaggatatct tttccagcta 687
 Tyr Leu Val Met Asp Leu Glu Gln Ser
 185 190

cattatctag ctctgactt tgtatacaca atttttgaaa aaacaatttg tatttgtgtt 747
 taataaaaaaa aaaaaaaaaa gggcggccgc 777

<210> 2

<211> 193

<212> PRT

<213> Mus musculus

<400> 2

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 Gly Asp Glu Leu Lys Lys Phe Lys Met Lys Leu Leu Thr Val Gln Leu
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 Arg Glu Gly Tyr Gly Arg Ile Pro Arg Gly Ala Leu Leu Gln Met Asp
 35 40 45
 Ala Ile Asp Leu Thr Asp Lys Leu Val Ser Tyr Tyr Leu Glu Ser Tyr
 50 55 60
 Gly Leu Glu Leu Thr Met Thr Val Leu Arg Asp Met Gly Leu Gln Glu
 65 70 75 80
 Leu Ala Glu Gln Leu Gln Thr Thr Lys Glu Glu Ser Gly Ala Val Ala
 85 90 95
 Ala Ala Ala Ser Val Pro Ala Gln Ser Thr Ala Arg Thr Gly His Phe
 100 105 110
 Val Asp Gln His Arg Gln Ala Leu Ile Ala Arg Val Thr Glu Val Asp
 115 120 125
 Gly Val Leu Asp Ala Leu His Gly Ser Val Leu Thr Glu Gly Gln Tyr
 130 135 140
 Gln Ala Val Arg Ala Glu Thr Thr Ser Gln Asp Lys Met Arg Lys Leu
 145 150 155 160

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aaaaagttca	agatgaagct	gctgacagtg	caactgcgag	aaggctatgg	gcgcatccca		120
cgccggggccc	tgctgcagat	ggacgccata	gatctcactg	acaaacttgt	cagctactat		180
ctggagtcgt	atggccttga	gctcacaatg	actgtgctta	gagacatggg	cttacaggag		240
ctggctgagc	agctgcaaac	gactaaagaa	gagtctggag	ctgtggcagc	tgcagccagt		300
gtccctgctc	accaggcagt	tcgtgcagag	accaccagcc	aagacaagat	gcaagcactc		360
attgccaggg	tcacagaagt	ggacggagtg	ctggatgctt	tgcatggcag	tgtgctgact		420
gaaggacagt	accaggcagt	tcgtgcagag	accaccagcc	aagacaagat	gaggaagctc		480
ttcagccttg	ttccatcctg	gaacctgacc	tgcaaggact	ccctcctcca	ggccttgaag		540
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<221> CDS
<222> (54) ... (638)

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ggg cgc gcg cgc gac gcc atc ctg gat gcg ctg gag aac ctg acc gcc
Gly Arg Ala Arg Asp Ala Ile Leu Asp Ala Leu Glu Asn Leu Thr Ala
5 10 15
104

gag gag ctc aag aag ttc aag ctg aag ctg ctg tcg gtg ccg ctg cgc
Glu Glu Leu Lys Lys Phe Lys Leu Lys Leu Leu Ser Val Pro Leu Arg
20 25 30
152

gag ggc tac ggg cgc atc ccg cgg ggc gcg ctg ctg tcc atg gac gcc
Glu Gly Tyr Gly Arg Ile Pro Arg Gly Ala Leu Leu Ser Met Asp Ala
35 40 45
200

ttg gac ctc acc gac aag ctg gtc agc ttc tac ctg gag acc tac ggc
Leu Asp Leu Thr Asp Lys Leu Val Ser Phe Tyr Leu Glu Thr Tyr Gly
50 55 60 65
248

gcc gag ctc acc gct aac gtg ctg cgc gac atg ggc ctg cag gag atg
Ala Glu Leu Thr Ala Asn Val Leu Arg Asp Met Gly Leu Gln Glu Met
70 75 80
296

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gcc ggg cag ctg cag gcg gcc acg cac cag ggc tct gga gcc gcg cca 344
 Ala Gly Gln Leu Gln Ala Ala Thr His Gln Gly Ser Gly Ala Ala Pro
 85 90 95

gct ggg atc cag gcc cct cct cag tgc gca gcc aag cca ggc ctg cac 392
 Ala Gly Ile Gln Ala Pro Pro Gln Ser Ala Ala Lys Pro Gly Leu His
 100 105 110

ttt ata gac cag cac cgg gct gcg ctt atc gcg agg gtc aca aac gtt 440
 Phe Ile Asp Gln His Arg Ala Ala Leu Ile Ala Arg Val Thr Asn Val
 115 120 125

gag tgg ctg ctg gat gct ctg tac ggg aag gtc ctg acg gat gag cag 488
 Glu Trp Leu Leu Asp Ala Leu Tyr Gly Lys Val Leu Thr Asp Glu Gln
 130 135 140 145

tac cag gca gtg cgg gcc gag ccc acc aac cca agc aag atg cgg aag 536
 Tyr Gln Ala Val Arg Ala Glu Pro Thr Asn Pro Ser Lys Met Arg Lys
 150 155 160

ctc ttc agt ttc aca cca gcc tgg aac tgg acc tgc aag gac ttg ctc 584
 Leu Phe Ser Phe Thr Pro Ala Trp Asn Trp Thr Cys Lys Asp Leu Leu
 165 170 175

ctc cag gcc cta agg gag tcc cag tcc tac ctg gtg gag gac ctg gag 632
 Leu Gln Ala Leu Arg Glu Ser Gln Ser Tyr Leu Val Glu Asp Leu Glu
 180 185 190

cgg agc tgaggctcct tcccagcaac actccggtca gccctggca atcccaccaa 688
 Arg Ser
 195

atcatcctga atctgatctt tttatacaca atatacgaaa agccagcttg aa 740

<210> 5

<211> 195

<212> PRT

<213> Homo sapiens

<400> 5

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 20 25 30
 Arg Glu Gly Tyr Gly Arg Ile Pro Arg Gly Ala Leu Leu Ser Met Asp
 35 40 45
 Ala Leu Asp Leu Thr Asp Lys Leu Val Ser Phe Tyr Leu Glu Thr Tyr
 50 55 60
 Gly Ala Glu Leu Thr Ala Asn Val Leu Arg Asp Met Gly Leu Gln Glu
 65 70 75 80
 Met Ala Gly Gln Leu Gln Ala Ala Thr His Gln Gly Ser Gly Ala Ala
 85 90 95
 Pro Ala Gly Ile Gln Ala Pro Pro Gln Ser Ala Ala Lys Pro Gly Leu
 100 105 110
 His Phe Ile Asp Gln His Arg Ala Ala Leu Ile Ala Arg Val Thr Asn
 115 120 125

Val Glu Trp Leu Leu Asp Ala Leu Tyr Gly Lys Val Leu Thr Asp Glu
 130 135 140
 Gln Tyr Gln Ala Val Arg Ala Glu Pro Thr Asn Pro Ser Lys Met Arg
 145 150 155 160
 Lys Leu Phe Ser Phe Thr Pro Ala Trp Asn Trp Thr Cys Lys Asp Leu
 165 170 175
 Leu Leu Gln Ala Leu Arg Glu Ser Gln Ser Tyr Leu Val Glu Asp Leu
 180 185 190
 Glu Arg Ser
 195

<210> 6
 <211> 585
 <212> DNA
 <213> Homo sapiens

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 cggggcgcgcg tgctgtccat ggacgccttg gacctaccg acaagctggc cagcttctac 180
 ctggagacct acggcgccga gctcaccgct aacgtgctgc gcgacatggg cctgcaggag 240
 atggccgggc agctgcaggc ggccacgcac cagggtctcg gagccgcgcc agctgggac 300
 caggccccctc ctcagtcggc agccaagcca ggcctgcaact ttatagacca gcaccgggct 360
 gcgcttatcg cgagggtcac aaacgttgag tggctgctgg atgctctgta cggaaggctc 420
 ctgacggatg agcagtacca ggcaagtgcg gccgagccca ccaaccaag caagatgcgg 480
 aagctcttca gtttcacacc agcctggaac tggacctgca aggacttgct cctccaggcc 540
 ctaaggaggt cccagtccta cctggtggag gacctggagc ggagc 585

<210> 7
 <211> 84
 <212> PRT
 <213> Mus musculus

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 Glu Val Asp Gly Val Leu Asp Ala Leu His Gly Ser Val Leu Thr Glu
 20 25 30
 Gly Gln Tyr Gln Ala Val Arg Ala Glu Thr Thr Ser Gln Asp Lys Met
 35 40 45
 Arg Lys Leu Phe Ser Phe Val Pro Ser Trp Asn Leu Thr Cys Lys Asp
 50 55 60
 Ser Leu Leu Gln Ala Leu Lys Glu Ile His Pro Tyr Leu Val Met Asp
 65 70 75 80
 Leu Glu Gln Ser

<210> 8
 <211> 85
 <212> PRT
 <213> Homo sapiens

<400> 8
 Gly Leu His Phe Ile Asp Gln His Arg Ala Ala Leu Ile Ala Arg Val
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 Thr Asn Val Glu Trp Leu Leu Asp Ala Leu Tyr Gly Lys Val Leu Thr
 20 25 30

Asp Glu Gln Tyr Gln Ala Val Arg Ala Glu Pro Thr Asn Pro Ser Lys
 35 40 45
 Met Arg Lys Leu Phe Ser Phe Thr Pro Ala Trp Asn Trp Thr Cys Lys
 50 55 60
 Asp Leu Leu Leu Gln Ala Leu Arg Glu Ser Gln Ser Tyr Leu Val Glu
 65 70 75 80
 Asp Leu Glu Arg Ser
 85

<210> 9
 <211> 94
 <212> PRT
 <213> Homo sapiens

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 Gly Ala Glu Val Leu Val Glu Gly Leu Val Leu Gln Tyr Leu Tyr Gln
 20 25 30
 Glu Gly Ile Leu Thr Glu Asn His Ile Gln Glu Ile Asn Ala Gln Thr
 35 40 45
 Thr Gly Leu Arg Lys Thr Met Leu Leu Leu Asp Ile Leu Pro Ser Arg
 50 55 60
 Gly Pro Lys Ala Phe Asp Thr Phe Leu Asp Ser Leu Gln Glu Phe Pro
 65 70 75 80
 Trp Val Arg Glu Lys Leu Lys Lys Ala Arg Glu Glu Ala Met
 85 90

<210> 10
 <211> 90
 <212> PRT
 <213> Homo sapiens

<400> 10
 Ile Ala Gln Gln Trp Ile Gln Ser Lys Arg Glu Asp Ile Val Asn Gln
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 Met Thr Glu Ala Cys Leu Asn Gln Ser Leu Asp Ala Leu Leu Ser Arg
 20 25 30
 Asp Leu Ile Met Lys Glu Asp Tyr Glu Leu Val Ser Thr Lys Pro Thr
 35 40 45
 Arg Thr Ser Lys Val Arg Gln Leu Leu Asp Thr Thr Asp Ile Gln Gly
 50 55 60
 Glu Glu Phe Ala Lys Val Ile Val Gln Lys Leu Lys Asp Asn Lys Gln
 65 70 75 80
 Met Gly Leu Gln Pro Tyr Pro Glu Ile Leu
 85 90

<210> 11
 <211> 90
 <212> PRT
 <213> Homo sapiens

<400> 11
 Glu Ser His Pro His Ile Gln Leu Leu Lys Ser Asn Arg Glu Leu Leu
 1 5 10 15
 Val Thr His Ile Arg Asn Thr Gln Cys Leu Val Asp Asn Leu Leu Lys
 20 25 30

Asn Asp Tyr Phe Ser Ala Glu Asp Ala Glu Ile Val Cys Ala Cys Pro
 35 40 45
 Thr Gln Pro Asp Lys Val Arg Lys Ile Leu Asp Leu Val Gln Ser Lys
 50 55 60
 Gly Glu Glu Val Ser Glu Phe Phe Leu Tyr Leu Leu Gln Gln Leu Ala
 65 70 75 80
 Asp Ala Tyr Val Asp Leu Arg Pro Trp Leu
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<210> 12

<211> 95

<212> PRT

<213> Artificial Sequence

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<223> Consensus sequence

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<222> 13, 50

<223> Xaa = Any Amino Acid

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 Ala Arg Val Thr Glu Asp Pro Asp Ser Leu Leu Asp Ala Leu Leu Ser
 20 25 30
 Arg Asp Leu Ile Ser Glu Glu Asp Tyr Glu Ala Val Glu Ala Glu Thr
 35 40 45
 Thr Xaa Leu Ser Lys Val Arg Lys Leu Leu Ile Leu Val Gln Ser Lys
 50 55 60
 Gly Glu Glu Thr Cys Lys Phe Leu Lys Cys Leu Leu Gln Ala Leu Lys
 65 70 75 80
 Asp Ser Ala Ala Tyr Leu Gly Leu Asp Pro Glu Val Leu Glu Ser
 85 90 95

<210> 13

<211> 97

<212> PRT

<213> Homo sapiens

<400> 13

Met Ala Thr Glu Ser Thr Pro Ser Glu Ile Ile Glu Arg Glu Arg Lys
 1 5 10 15
 Lys Leu Leu Glu Ile Leu Gln His Asp Pro Asp Ser Ile Leu Asp Thr
 20 25 30
 Leu Thr Ser Arg Arg Leu Ile Ser Glu Glu Glu Tyr Glu Thr Leu Glu
 35 40 45
 Asn Val Thr Asp Leu Leu Lys Lys Ser Arg Lys Leu Leu Ile Leu Val
 50 55 60
 Gln Lys Lys Gly Glu Ala Thr Cys Gln His Phe Leu Lys Cys Leu Phe
 65 70 75 80
 Ser Thr Phe Pro Gln Leu Ala Ala Ile Cys Gly Leu Arg His Glu Val
 85 90 95
 Leu

<210> 14
 <211> 108
 <212> PRT
 <213> Rattus norvegicus

<400> 14
 Met Ala Ser Glu Gly Ala Ser Ser Glu Ile Ile Glu Lys Gln Arg Thr
 1 5 10 15
 Lys Leu Leu Ser Val Leu Gln Gln Asp Pro Asp Ser Ile Leu Asp Thr
 20 25 30
 Leu Thr Ser Arg Arg Leu Ile Ser Glu Glu Glu Tyr Glu Thr Leu Glu
 35 40 45
 Ala Ile Thr Asp Pro Leu Lys Lys Ser Arg Lys Leu Leu Ile Leu Ile
 50 55 60
 Gln Lys Lys Gly Glu Asp Ser Cys Cys Cys Phe Leu Lys Cys Leu Ser
 65 70 75 80
 Asn Ala Phe Pro Gln Ser Ala Ser Thr Leu Gly Leu Lys Gln Glu Val
 85 90 95
 Pro Arg Gln Gly Thr Gly Glu Val Val Glu Val Ser
 100 105

<210> 15
 <211> 85
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus sequence

<221> VARIANT
 <222> 2, 5, 18, 20, 21, 29, 34, 45-47, 56, 61, 67, 72, 74-75, 84
 <223> Xaa = Any Amino Acid

<400> 15
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 1 5 10 15
 Thr Xaa Val Xaa Xaa Val Leu Asp Ala Leu Tyr Gly Xaa Val Leu Thr
 20 25 30
 Glu Xaa Gln Tyr Gln Ala Val Arg Ala Glu Thr Thr Xaa Xaa Xaa Lys
 35 40 45
 Met Arg Lys Leu Phe Ser Phe Xaa Pro Ser Trp Asn Xaa Thr Cys Lys
 50 55 60
 Asp Xaa Leu Leu Gln Ala Leu Xaa Glu Xaa Xaa Pro Tyr Leu Val Glu
 65 70 75 80
 Asp Leu Glu Xaa Ser
 85

<210> 16
 <211> 25
 <212> DNA
 <213> Homo sapiens

<400> 16
 taggacctcg gtaccgcgcg gcgcg

<210> 17
 <211> 25

<212> DNA
<213> Homo sapiens

<400> 17
cgccggcccc taggacctcg gtacc

25

<210> 18
<211> 777
<212> DNA
<213> Mus musculus

<400> 18

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<210> 19
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<212> DNA
<213> Homo sapiens

<400> 19

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ggcgtccatg	gacagcagcg	cgccccgcgg	gatgcgcccg	tagccctcgc	gcagcggcac	600
cgacagcagc	ttcagcttga	acttctttag	ctcctcggcg	gtcaggttct	ccagcgcac	660
caggatggcg	tcgcgcgcgc	gccccatggc	tccaggatcc	ccggccgctg	ccgcccgtca	720
ccccgctgca	gccggacgcg					740